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Z8F08200100KIT

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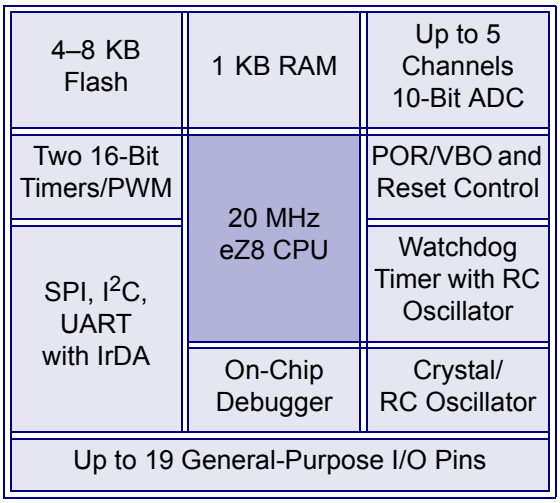
High Performance 8-Bit Microcontrollers

Z8 Encore!® 8K Series MCUs

Product Brief

PB011110-1206

Product Block Diagram



Overview

ZiLOG's Z8 Encore!® 8K Series devices are Flash microcontrollers based on ZiLOG's eZ8 CPU. Z8 Encore! 8K Series MCU devices sets a new standard for performance and on-chip peripherals.

Z8 Encore! 8K Series devices support up to 8 KB of Flash program memory and 1 KB register RAM. The 8K Series devices feature up to five channels of 10-bit A/D conversion for measuring analog signals. These devices include two enhanced 16-bit timer blocks featuring PWMs and Capture and Compare.

Up to 19 vectored interrupts with programmable priorities provide increased application flexibility.

The new single-pin debugger and programming interface simplifies code development and allows for easy in-circuit programming.

The full-duplex UART provides serial communications and IrDA encoding and decoding capability.

SPI and I^2C ports allow easy incorporation into any system.

Features

Key features of Z8 Encore! 8K Series include:

- 20 MHz eZ8 CPU core
- Up to 8 KB Flash memory with in-circuit programming capability
- 1 KB register RAM
- Optional 2- or 5-channel, 10-bit analog-to-digital converter (ADC)
- Full-duplex 9-bit UART with bus transceiver Driver Enable Control
- I^2C ports
- Serial Peripheral Interface (SPI)
- Infrared Data Association (IrDA)-compliant infrared encoder/decoders
- Two 16-bit timers with capture, compare, and PWM capability
- Watchdog Timer (WDT) with internal RC oscillator
- 11 to 9 I/O pins depending upon package
- Up to 19 interrupts with configurable priority
- On-Chip Debugger (OCD)
- Voltage Brownout (VBO) protection
- Power-on Reset (POR)
- Crystal oscillator with three power settings and external RC network option
- 2.7 V–3.6 V operating voltage with 5 V-tolerant inputs
- 20- and 28-pin packages
- 0 ºC to +70 ºC standard temperature and –40 ºC to +105 ºC extended temperature operating ranges

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eZ8 CPU Features

- New instructions for improved performance including BIT, BSWAP, BTJ, CPC, LDC, LDCI, LEA, MULT, and SRL
- New instructions support 12-bit linear addressing of the Register File
- Compatible with existing Z8® code
- Up to 10 MIPS operation
- C-Compiler friendly
- 2 to 9 clock cycles per instruction

Z8 Encore!® 8K Series Development Kit

Z8 Encore! 8K Series Development Kit includes the following:

Hardware

- Z8 Encore! 8K Series Development Board
- Smart Cable
- 5V DC power supply

Software (on CD-ROM)

- ZDS II—Z8 Encore!® IDE with ANSI C-Compiler
- Sample code
- Document Browser
- Acrobat Reader install program

Documentation

- Quick Start Guide
- Z8 Encore!® 8K Series technical documentation (on CD-ROM)

Architecture

Figure 1 illustrates the Z8 Encore!® 8K Series block diagram.

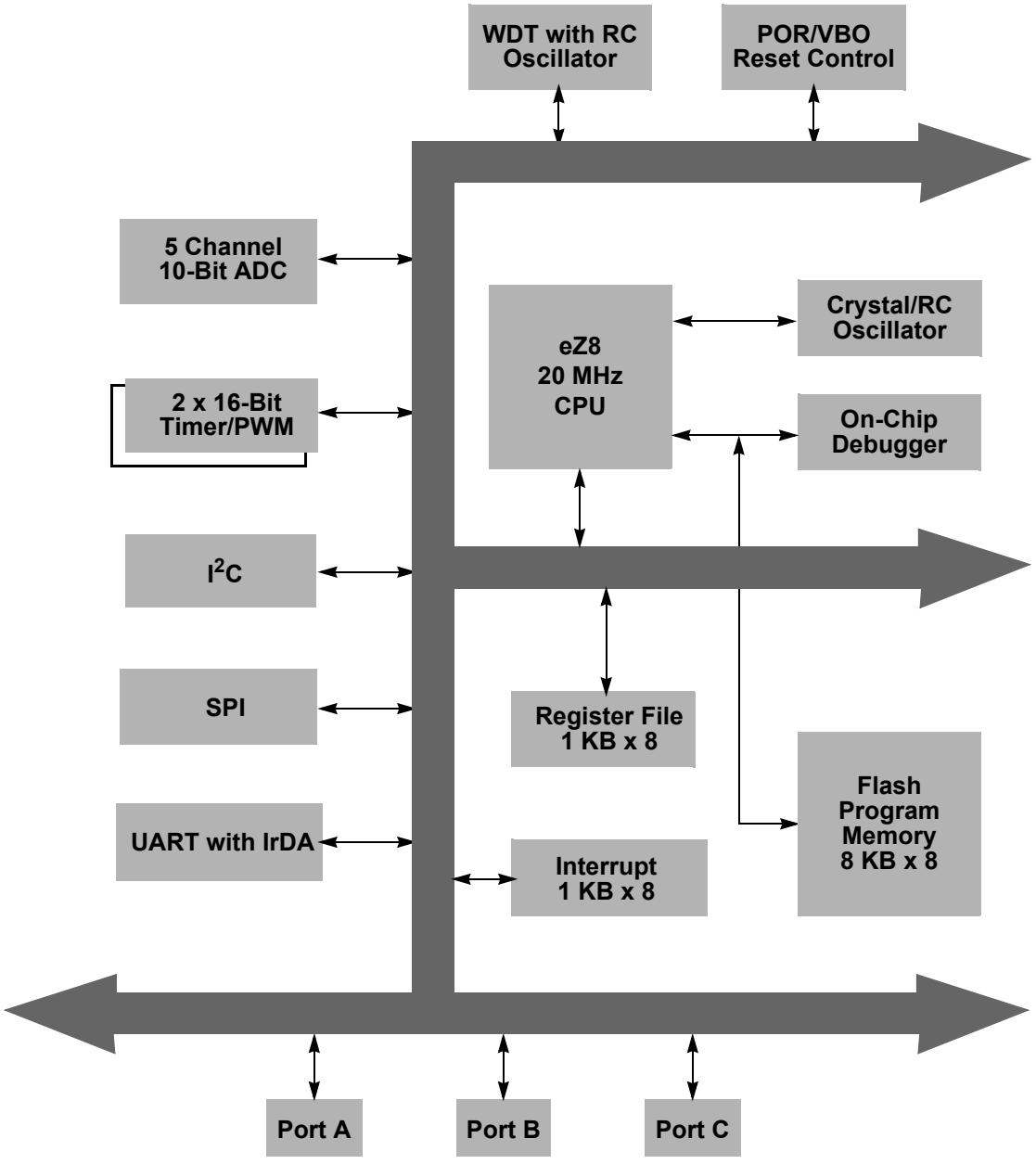


Figure 1. Z8 Encore!® 8K Series Block Diagram

Ordering Information

Order Z8 Encore!® 8K Series from ZiLOG, using the following part numbers. For more information regarding ordering, consult your local ZiLOG sales office. ZiLOG website www.zilog.com lists all regional offices and provides additional Z8 Encore! product information.

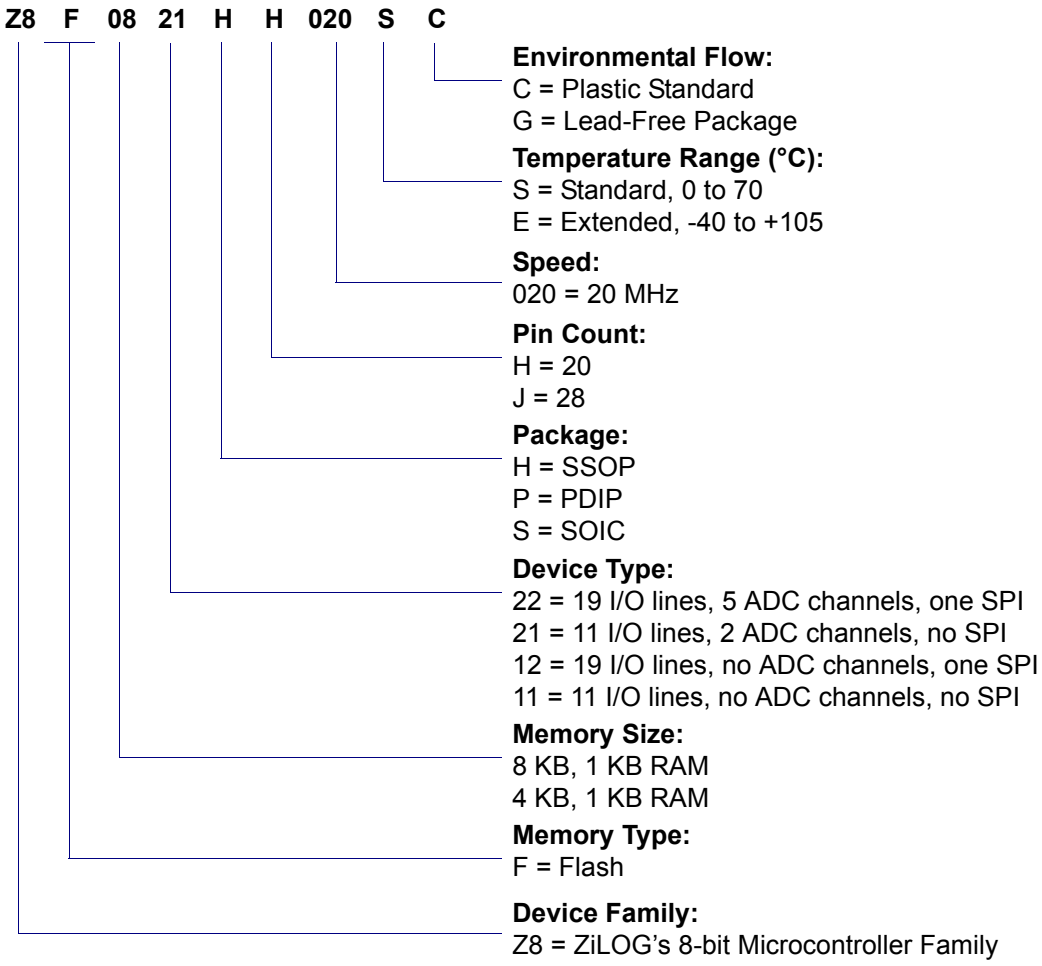
Part Number	Flash	RAM	I/O Lines	Interrupts	16-Bit Timers w/PWM	10-Bit A/D Channels	I^2C	SPI	UARTs with IrDA	Description
Z8F08xx with 8 KB Flash, 10-Bit Analog-to-Digital Converter										
Standard Temperature: 0 ° C to 70 °C										
Z8F0821HH020SC	8 KB	1 KB	11	16	2	2	1	0	1	SSOP 20-pin package
Z8F0821PH020SC	8 KB	1 KB	11	16	2	2	1	0	1	PDIP 20-pin package
Z8F0822SJ020SC	8 KB	1 KB	19	19	2	5	1	1	1	SOIC 28-pin package
Z8F0822PJ020SC	8 KB	1 KB	19	19	2	5	1	1	1	PDIP 28-pin package
Extended Temperature: -40 °C to +105 °C										
Z8F0821HH020EC	8 KB	1 KB	11	16	2	2	1	0	1	SSOP 20-pin package
Z8F0821PH020EC	8 KB	1 KB	11	16	2	2	1	0	1	PDIP 20-pin package
Z8F0822SJ020EC	8 KB	1 KB	19	19	2	5	1	1	1	SOIC 28-pin package
Z8F0822PJ020EC	8 KB	1 KB	19	19	2	5	1	1	1	PDIP 28-pin package
NOTE: Replace C with G for lead-free packaging.										

Part Number	Flash	RAM	I/O Lines	Interrupts	16-Bit Timers w/PWM	10-Bit A/D Channels	I^2C	SPI	UARTs with IrDA	Description
Z8F08xx with 8 KB Flash										
Standard Temperature: 0 °C to 70 °C										
Z8F0811HH020SC	8 KB	1 KB	11	16	2	0	1	0	1	SSOP 20-pin package
Z8F0811PH020SC	8 KB	1 KB	11	16	2	0	1	0	1	PDIP 20-pin package
Z8F0812SJ020SC	8 KB	1 KB	19	19	2	0	1	1	1	SOIC 28-pin package
Z8F0812PJ020SC	8 KB	1 KB	19	19	2	0	1	1	1	PDIP 28-pin package
Extended Temperature: -40 °C to +105 °C										
Z8F0811HH020EC	8 KB	1 KB	11	16	2	0	1	0	1	SSOP 20-pin package
Z8F0811PH020EC	8 KB	1 KB	11	16	2	0	1	0	1	PDIP 20-pin package
Z8F0812SJ020EC	8 KB	1 KB	19	19	2	0	1	1	1	SOIC 28-pin package
Z8F0812PJ020EC	8 KB	1 KB	19	19	2	0	1	1	1	PDIP 28-pin package
NOTE: Replace C with G for lead-free packaging.										

Part Number	Flash	RAM	I/O Lines	Interrupts	16-Bit Timers w/PWM	10-Bit A/D Channels	I^2C	SPI	UARTs with IrDA	Description
Z8F04xx with 4 KB Flash, 10-Bit Analog-to-Digital Converter										
Standard Temperature: 0 °C to 70 °C										
Z8F0421HH020SC	4 KB	1 KB	11	16	2	2	1	0	1	SSOP 20-pin package
Z8F0421PH020SC	4 KB	1 KB	11	16	2	2	1	0	1	PDIP 20-pin package
Z8F0422SJ020SC	4 KB	1 KB	19	19	2	5	1	1	1	SOIC 28-pin package
Z8F0422PJ020SC	4 KB	1 KB	19	19	2	5	1	1	1	PDIP 28-pin package
Extended Temperature: -40 °C to 105 °C										
Z8F0421HH020EC	4 KB	1 KB	11	16	2	2	1	0	1	SSOP 20-pin package
Z8F0421PH020EC	4 KB	1 KB	11	16	2	2	1	0	1	PDIP 20-pin package
Z8F0422SJ020EC	4 KB	1 KB	19	19	2	5	1	1	1	SOIC 28-pin package
Z8F0422PJ020EC	4 KB	1 KB	19	19	2	5	1	1	1	PDIP 28-pin package
NOTE: Replace C with G for lead-free packaging.										

Part Number	Flash	RAM	I/O Lines	Interrupts	16-Bit Timers w/PWM	10-Bit A/D Channels	I^2C	SPI	UARTs with IrDA	Description
Z8F04xx with 4 KB Flash										
Standard Temperature: 0 °C to 70 °C										
Z8F0411HH020SC	4 KB	1 KB	11	16	2	0	1	0	1	SSOP 20-pin package
Z8F0411PH020SC	4 KB	1 KB	11	16	2	0	1	0	1	PDIP 20-pin package
Z8F0412SJ020SC	4 KB	1 KB	19	19	2	0	1	1	1	SOIC 28-pin package
Z8F0412PJ020SC	4 KB	1 KB	19	19	2	0	1	1	1	PDIP 28-pin package
Extended Temperature: -40 °C to 105 °C										
Z8F0411HH020EC	4 KB	1 KB	11	16	2	0	1	0	1	SSOP 20-pin package
Z8F0411PH020EC	4 KB	1 KB	11	16	2	0	1	0	1	PDIP 20-pin package
Z8F0412SJ020EC	4 KB	1 KB	19	19	2	0	1	1	1	SOIC 28-pin package
Z8F0412PJ020EC	4 KB	1 KB	19	19	2	0	1	1	1	PDIP 28-pin package
Z8F08200100KITG										Z8 Encore!® Development Kit
ZUSBSC00100ZACG										USB Smart Cable Accessory Kit
ZUSBOPTSC01ZACG										Opto-Isolated USB Smart Cable Accessory Kit
NOTE: Replace C with G for lead-free packaging.										

Part Number Suffix Designations



The product brief contains an overview of the silicon feature set and operating parameters and should not be considered as the final specification. See the product specification for the actual feature set and operating parameters for this product.

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Feedback

For any comments, detail technical questions, or reporting problems, please visit ZiLOG's Technical Support at http://support.zilog.com.

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